

Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application.

1. (Currently amended) An isolated *Bacillus* beta subunit of a DNA polymerase III-type enzyme, the isolated beta subunit being encoded by a nucleic acid molecule hybridizing to the complete complement of SEQ ID NO: 173 under hybridization conditions that are at least as stringent as use of a medium comprising ~~0.9M sodium citrate buffer at a temperature of 37°C~~ 5X sodium citrate buffer and at a temperature of 65°C, followed by washing in 5X sodium citrate buffer at 65°C, wherein the isolated beta subunit can form a beta clamp on a DNA strand.

2. (Original) The isolated *Bacillus* beta subunit according to claim 1 wherein the *Bacillus* species is *Bacillus stearothermophilus*.

3-4 (Cancelled)

5. (Original) The isolated *Bacillus* beta subunit according to claim 1 wherein the beta subunit is purified.

6. (Original) A beta clamp comprising the *Bacillus* beta subunit according to claim 1.

7. (Original) A DNA polymerase III-type enzyme complex comprising the beta clamp according to claim 6.

8. (Original) A kit comprising:
a container that contains therein either a deoxynucleoside triphosphate or a dideoxynucleoside triphosphate; and
a container that contains therein the DNA polymerase III-type enzyme complex according to claim 7.

9-10. (Cancelled)

11. (Previously presented) The isolated *Bacillus* beta subunit according to claim 1, wherein the beta subunit encoded by the nucleic acid molecule is at least 80 percent identical to the amino acid sequence of SEQ ID NO: 174.

12. (Previously presented) The isolated *Bacillus* beta subunit according to claim 1, wherein the beta subunit encoded by the nucleic acid molecule is at least 90 percent identical to the amino acid sequence of SEQ ID NO: 174.

13. (Previously presented) The isolated *Bacillus* beta subunit according to claim 1, wherein the beta subunit encoded by the nucleic acid molecule is at least 95 percent identical to the amino acid sequence of SEQ ID NO: 174.

14. (Previously presented) The isolated *Bacillus* beta subunit according to claim 1, wherein the nucleic acid molecule is at least 90 percent identical to the nucleotide sequence of SEQ ID NO: 173.

15. (Previously presented) The isolated *Bacillus* beta subunit according to claim 1, wherein the nucleic acid molecule is at least 95 percent identical to the nucleotide sequence of SEQ ID NO: 173.

16. (Previously presented) An isolated beta subunit comprising the amino acid sequence of SEQ ID NO: 174.

17. (Previously presented) A beta clamp comprising the beta subunit according to claim 16.

18. (Previously presented) A DNA polymerase III-type enzyme complex comprising the beta clamp according to claim 17.

19. (Previously presented) A kit comprising:
a container that contains therein either a deoxynucleoside triphosphate or a dideoxynucleoside triphosphate; and
a container that contains therein the DNA polymerase III-type enzyme complex according to claim 18.